The

PINE BUTTERFLY PROBLEM

ON THE

BOISE NATIONAL FOREST

1953 - 54

U. S. FOREST SERVICE. REGION FOUR.

THE PINE BUTTERFLY SITUATION
BOISE NATIONAL FOREST
1953 - 1954

THE PROBLEM

The pine butterfly, a defoliating insect, is in epidemic state on some 169,000 acres of choice ponderosa pine timber land on the Boise National Forest in Southwest Idaho.

THE INSECT

The adult insect, a small, white butterfly, lays its eggs on the needles in the late summer. The insects rest over winter in that stage. The eggs hatch early in June and the larvae begin feeding on the needles. They feed for a period of five or six weeks, pupate and emerge in late summer as adults to lay eggs and start the cycle over.

HISTORY

The insect is always present but seldom in epidemic numbers. Only occasional outbreaks known and none in recent years. The Boise infestation developed to noticeable proportions in the spring of 1953. Experimental control by aerial spraying of DDT solution in July 1953 on 400 acre test area showed practicability of using same control measures used successfully against spruce budworm in the Northwest. Cooperative survey made in August and September 1953 showed epidemic conditions on 169,000 acres.

DAMAGE DONE

Some 8000 acres of ponderosa pine timber were seriously defoliated by the 1953 larvae. It is quite likely that much of the pine timber on this area will die. Loss of pine stumpage alone may be as much as 10 to 20 million board feet. Some can be salvaged by logging but forest management and community stability receive a serious setback when young timber as well as old is destroyed.

DAMAGE IN PROSPECT

1.6 billion board feet of timber worth conservatively $30,000,000 is immediately threatened. This is 35% of the volume of pine timber on the Boise National Forest. Watershed and recreational values will be impaired and loss of revenue to industry through reduction in yearly cut will be serious. Fire hazard will also be greatly increased.

WHAT CAN BE DONE

Control of the pine butterfly by logging the 169,000 acres is impossible. Aerial spraying of DDT solution is the only feasible approach. This would cost approximately $1.45 per acre.

WHEN NEEDED

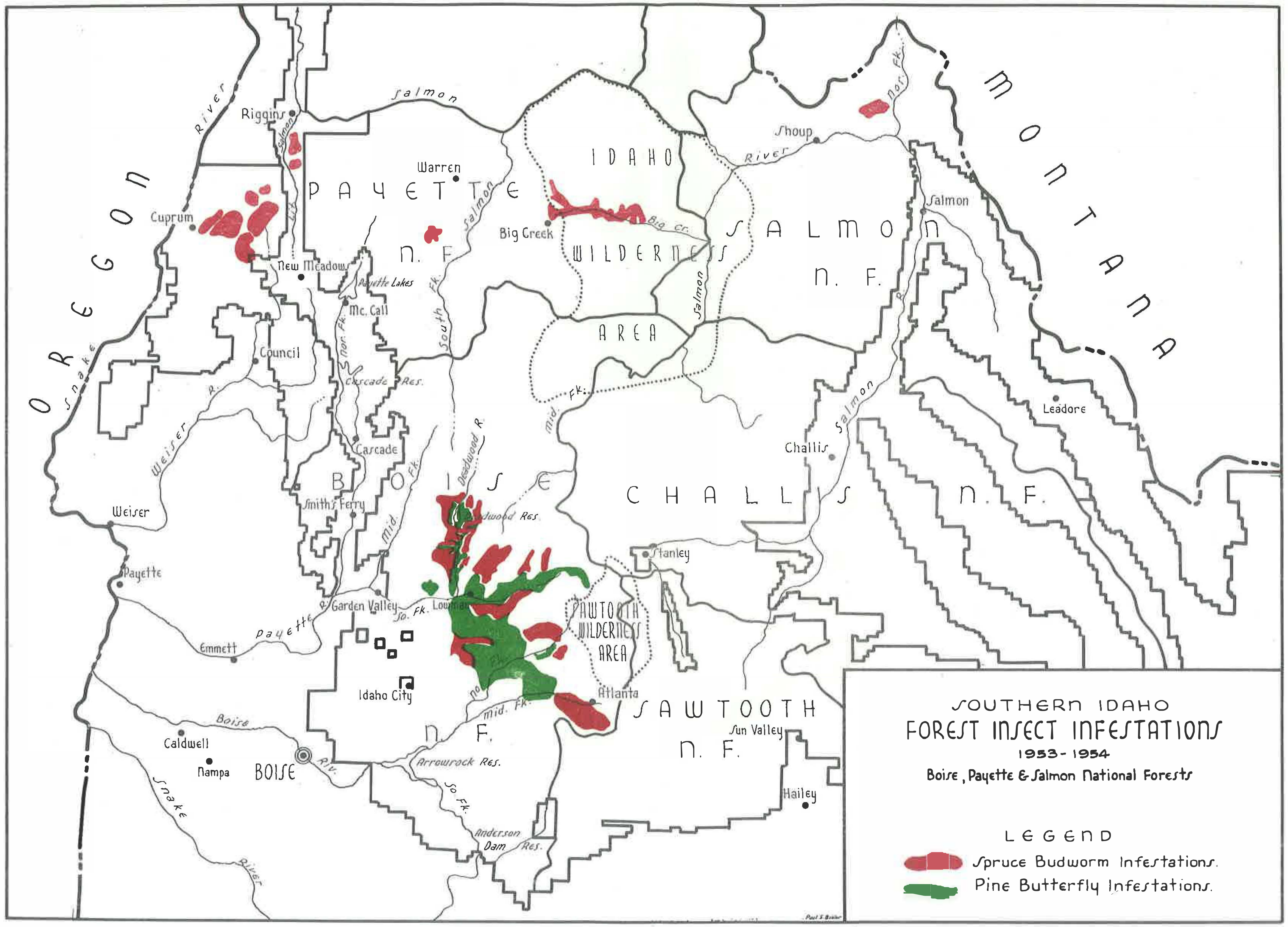
Spraying can be done effectively from about June 20 to July 15, but to assure purchase and delivery of insecticide, contracting for flying etc., definite arrangements have to be made well in advance of the actual field work.

Appearance of mature ponderosa pine stand which suffered heavy defoliation. These trees will probably not live through another season.

Close-up of needle complement after severe defoliation as picture above. 75% to 90% of green needles chewed down to stubs.

Eggs of pine butterfly on ponderosa pine needles. On this twig there are 4 groups averaging 14 eggs per group. Five or more eggs per twig considered epidemic condition.

Heavy defoliation from feeding larvae on twig on left side. Healthy "unbrowsed" twig on right for comparison.


SOUTHERN IDAHO
FOREST INSECT INFESTATIONS
1953 - 1954
Boise, Payette & Salmon National Forests
LEGEND
Spruce Budworm Infestations.
Pine Butterfly Infestations.
OREGON
MONTANA
PAYETTE N. F.
IDAHO WILDERNESS AREA
SALMON N. F.
BOISE N. F.
CHALLIS N. F.
SAWTOOTH N. F.
SAWTOOTH WILDERNESS AREA
Riggins
Warren
Big Creek
Shoup
Salmon
Cuprum
New Meadows
Payette Lakes
Mc. Call
Council
Cascade Res.
Cascade
Leadore
Challis
Weiser
Smiths Ferry
Stanley
Payette
Garden Valley
Lowman
Emmett
Idaho City
Atlanta
Sun Valley
Caldwell
Nampa
BOISE
Arrowrock Res.
Anderson Dam Res.
Hailey
Salmon River
Snake River
Weiser R.
Payette R.
Boise Riv.
Big Cr.
Deadwood R.
Deadwood Res.
South Fk.
Mid. Fk.
So. Fk.
Nor. Fk.